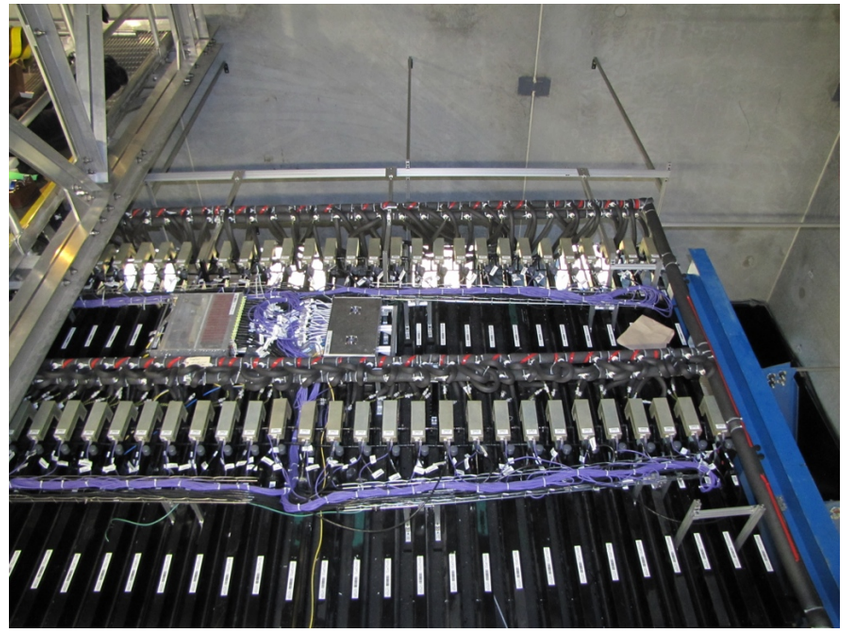
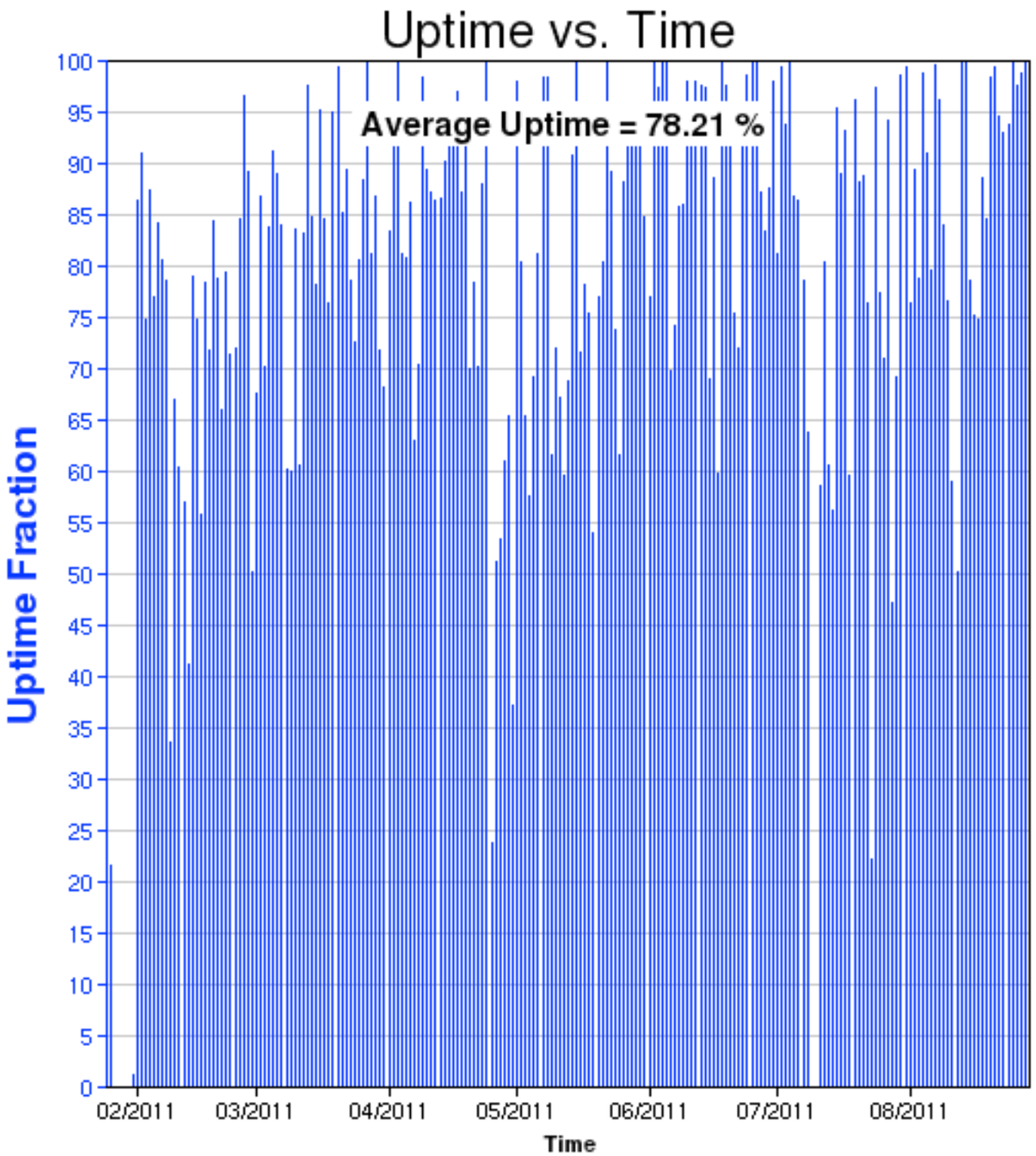
Status of NOvA NDOS



Jonathan Paley
Argonne National Laboratory

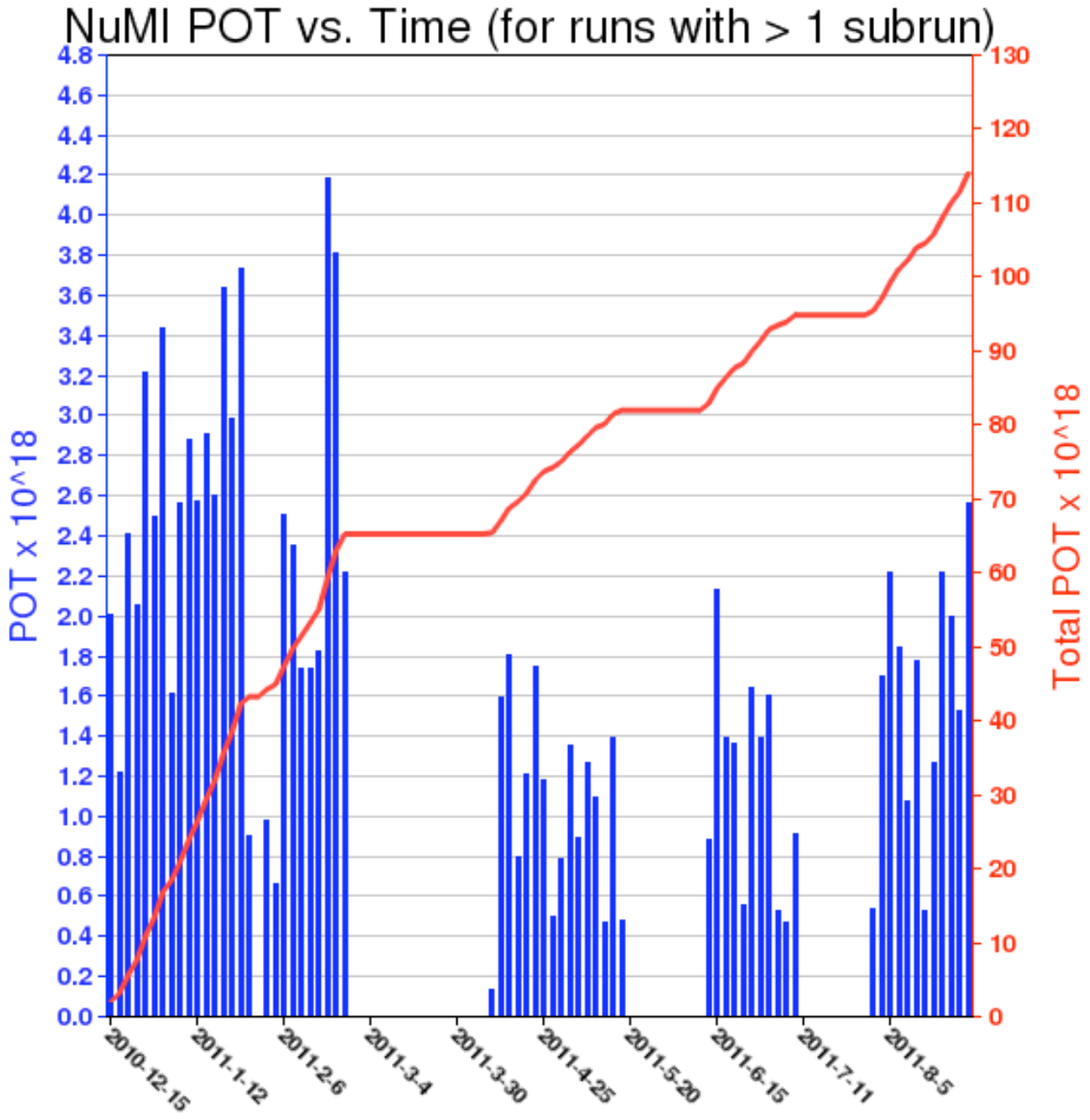
Run Coordinator Report
August 29, 2011

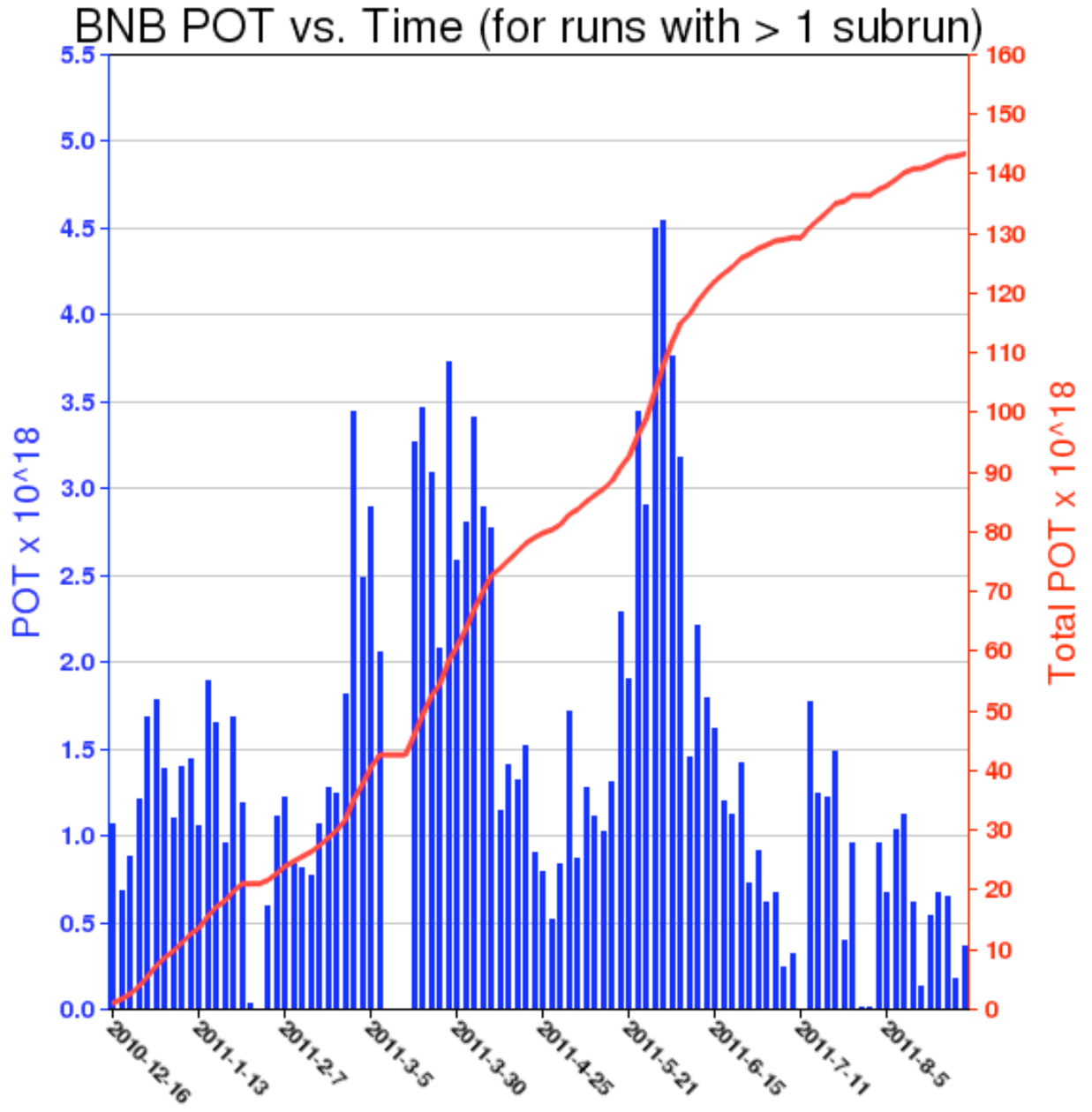
Detector Uptime



- Plot on the left includes downtime due to commissioning work.
- Overnight, when there is no commissioning work going on, the uptime is ~99%.

Neutrino Beam Exposure





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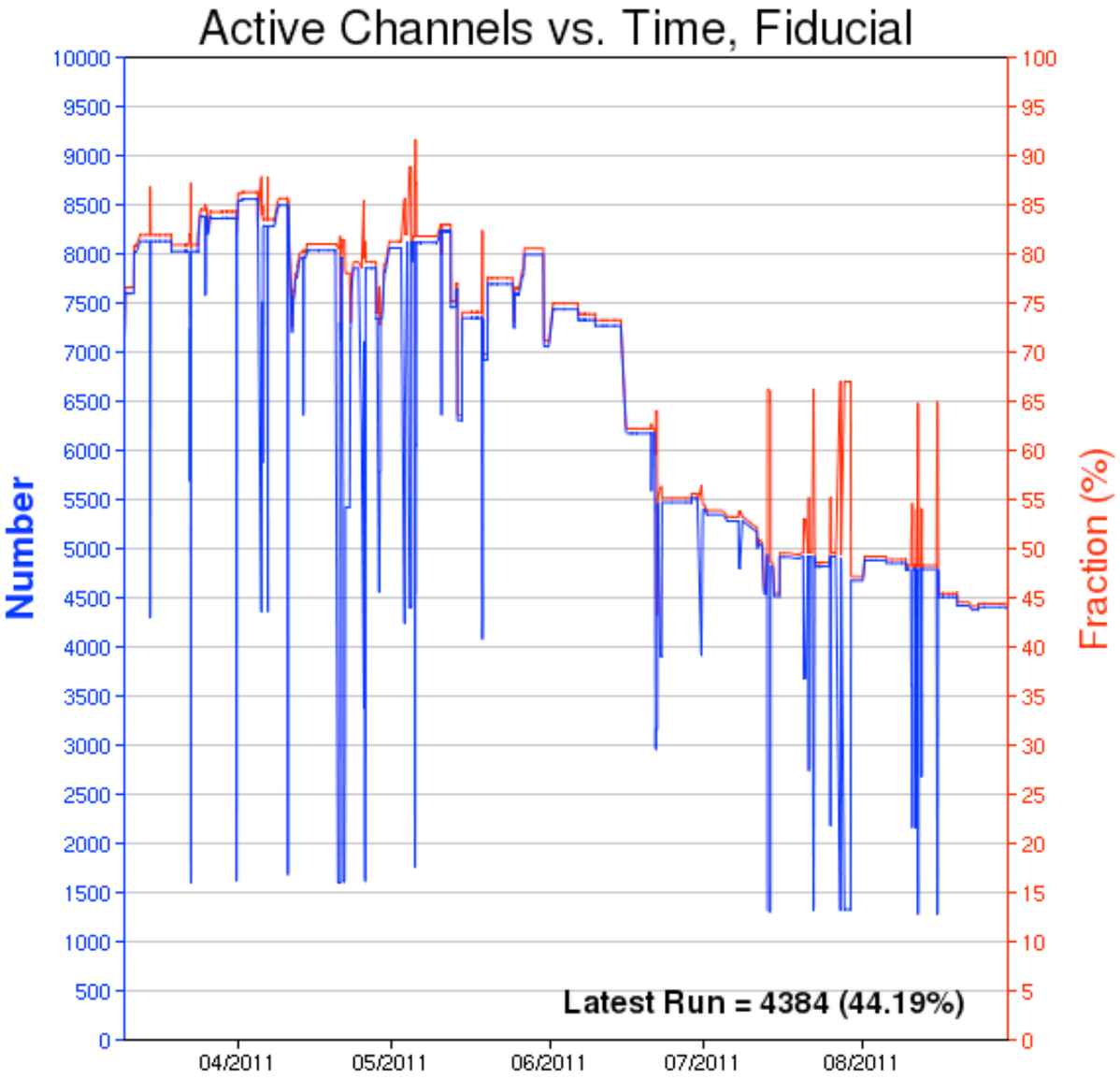
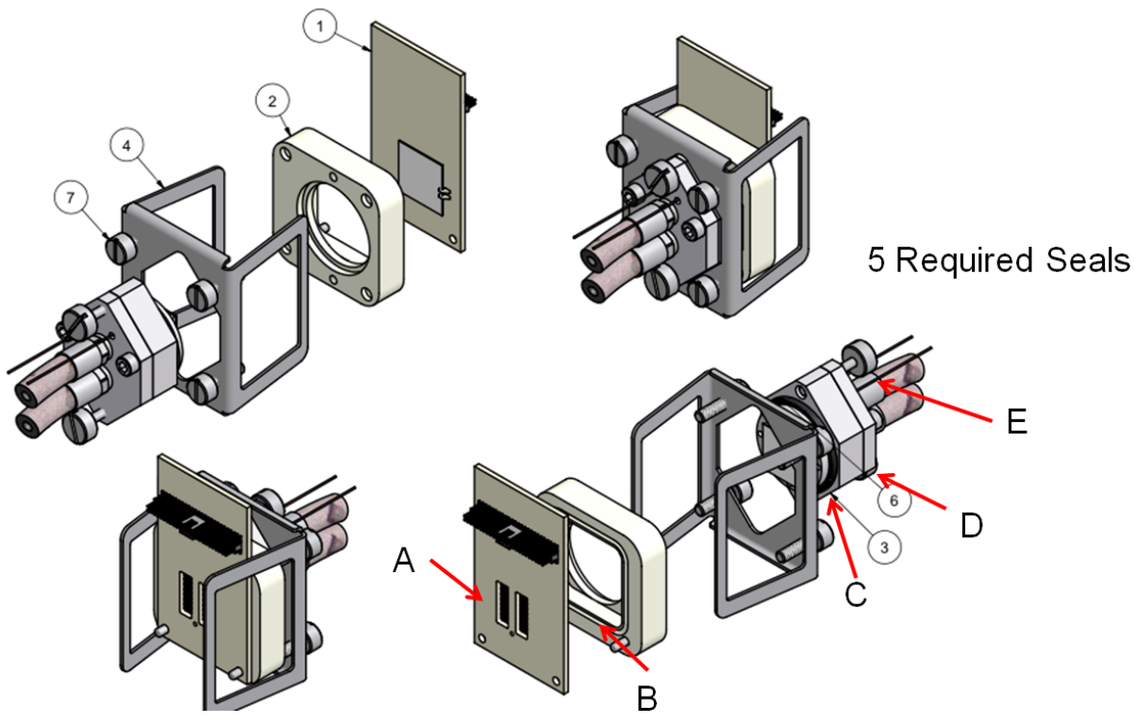
Active Channel Counts



- Very large drop in active channel count in the fiducial volume over the past 3 months.
- Cooling of APDs has brought installation issues to light. APDs were exposed to air, dirt and scintillator.

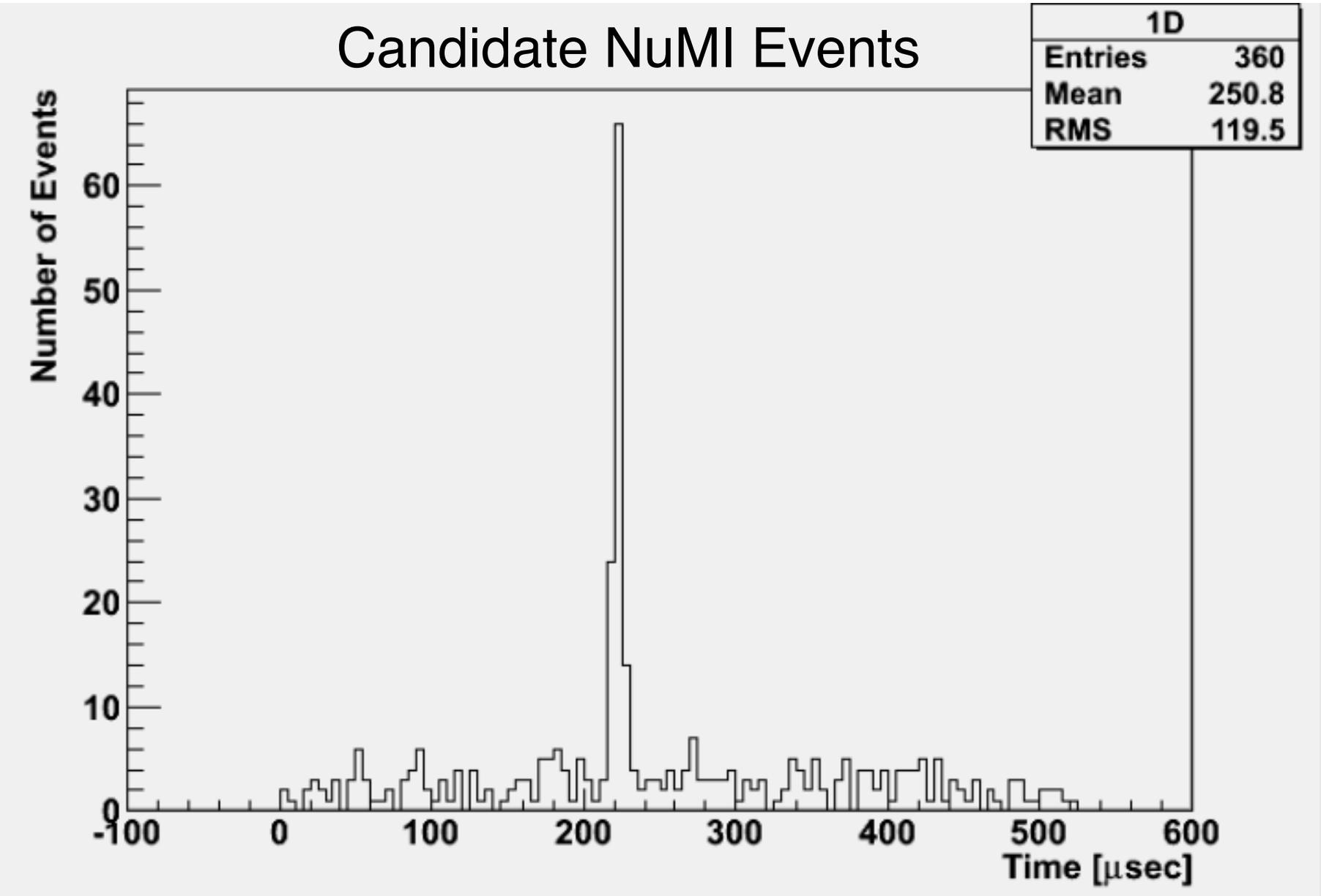


- Task force put together to tackle this issue by investigating several areas: APD coating studies, APD failures under cooling (seal failure), and redesign of mounting hardware (both clip and electronics box).

Active Channel Counts

- So far, only a small fraction of APDs removed from NDOS have passed QC tests performed at CalTech after initial cleaning.
- The goal is to order ~500 APDs from Hamamatsu to test different coating methods.
- **Redesign and delivery of new hardware (APDs and mounting) not likely to be complete for 2-3 months.**
- In the meantime, over-night shifts have been canceled and the collaboration is focused on improving the offline reconstruction and preparing for Ash River installation.
- The NDOS has certainly served its role as a prototype detector and taught us a great deal which will lead to greatly improved detectors.

Yet, we still find NuMI events!



- Booster events have been **much** harder to observe in NDOS since the large number of APDs were removed.

Progress Towards Ash River Readiness

- Beneficial occupancy of FD laboratory obtained April 13, 2011
- NDOS DAQ operated from FD lab last week; bandwidth test was successful. Most narrow point of DAQ data flow has been tested at full FD DAQ rate. Could be used as-is to commission the first few ktons of detector. DAQ software now being modified for ease of use with x20 increase in DAQ channels.